

**In the Claims:**

1. (currently amended) A process for treating waste water to remove contaminants from the waste water, wherein the process includes providing a separation unit for removal of contaminants from the waste water, and wherein the process further comprises:

- A. providing a recycle stream of recycled waste water from the influent end of the separation unit and treating the recycled waste water with a coagulant and [with] injecting non-dissolved air [which is injected] into the recycled waste water;
- B. mixing the treated recycled waste water with an incoming flow of untreated raw waste water;
- C. adding a flocculating agent to the mixture of treated and untreated waste water to flocculate contaminants in the waste water mixture, whereby the non-dissolved air is entrapped within the flocculated contaminants;
- D. moving the waste water mixture to [a unit in which] the separation unit whereby the flocculated contaminants rise to an upper area of the unit;
- E. removing the flocculated contaminants from the upper area of the unit;
- F. removing a first portion of the waste water mixture from a lower portion of the unit; and
- G. recycling a second portion of the waste water mixture through the process as the recycle stream of recycled waste water from the influent end of the separation unit.

2. (original) A process as defined by Claim 1 wherein, prior to addition of the flocculating agent, the recycled waste water is treated with a pH adjusting material to adjust the pH of the recycled waste water.

3. (currently amended) A process as defined by Claim 2 wherein the pH adjusting material [is] includes a tannin, lignin, hydroxide, metal-containing compound, [or] acidic compound or a mixture of such materials.

4. (currently amended) A process as defined by Claim 3 wherein the pH adjusting material [is] includes a tannin, lignin, ferric chloride, ferric sulfate, aluminum chloride, aluminum sulfate or a mixture of such materials.

5. (currently amended) A process as defined by Claim 3 wherein the pH adjusting material [is] includes sulfuric acid, hydrochloric acid, nitric acid or a mixture of such materials.

6. (currently amended) A process as defined by Claim 3 wherein the pH adjusting material [is] includes sodium hydroxide, potassium hydroxide, calcium hydroxide or a mixture of such materials.

7. (currently amended) A process as defined by Claim 1 wherein the flocculating agent [is] includes a tannin, lignin, cationic polymer, anionic polymer or a mixture of such agents.

8. (currently amended) A process as defined by Claim 7 wherein the flocculating agent [is] includes a cationic polymer, an anionic polymer or a mixture of such polymers.

9. (currently amended) A process as defined by Claim 7 wherein the flocculating agent [is] includes a polyacrylamide.

10. (currently amended) A process as defined by Claim 7 wherein the flocculating agent [is] includes a polyamine.

11. (original) A process as defined by Claim 1 wherein the air is entrapped within the flocculated contaminants.

12. (original) A process as defined by Claim 1 wherein the second portion of the waste water mixture is recycled by a low pressure pump.

13. (original) A process as defined by Claim 1 wherein the second portion of the waste water mixture is recycled by gravity flow.

14. (original) A process as defined by Claim 1 wherein molecules of the non-dissolved air attach to the coagulant, and an initial pin floc is formed in which the air molecules are entrapped within the pin floc.

15. (original) A process as defined by Claim 1 wherein the air is not pressurized to a point at which air can be dissolved.

16. (currently amended) A process as defined by Claim 1 wherein the waste water is recycled by a pump which [does not operate at the] operates at a pressure below the pressure required to dissolve the air.

17. (currently amended) A process for treating waste water to remove contaminants from the waste water, wherein the process includes providing a separation unit for removal of contaminants from the waste water, and wherein the process comprises:

A. providing a recycle stream of recycled waste water from the influent end of the separation unit and treating the recycled waste water with a coagulant and [with] injecting non-dissolved air [which is injected] into the recycled waste water;

B. treating the recycled waste water with a material to adjust the pH of the recycled waste water;

C. mixing the treated recycled waste water with an incoming flow of untreated raw waste water thereby forming a waste water mixture;

D. adding a flocculating agent to the mixture of treated and untreated waste water to flocculate contaminants in the waste water mixture, whereby the non-dissolved air is entrapped within the flocculated contaminants.

E. moving the waste water mixture to [a] the separation unit in which the flocculated contaminants rise to an upper area of the unit;

F. removing the flocculated contaminants from the upper area of the unit;

G. removing a first portion of the waste water mixture from a lower portion of the unit;

H. recycling a second portion of the waste water mixture through the process as the recycle stream of recycled waste water from the influent end of the separation unit; and

I. adding a coagulant to the second portion of the waste water mixture after the second portion is treated with a material to adjust the pH of the recycled waste water.

18. (original) A process as defined by Claim 17 wherein the coagulant is a tannin, lignin, hydroxide, metal-containing compound, acidic compound or a mixture of such compounds.

19. (original) A process as defined by Claim 18 wherein the coagulant is ferric chloride, ferric sulfate, aluminum chloride, aluminum sulfate or a mixture of such materials.

20. (original) A process as defined by Claim 18 wherein the coagulant is sulfuric acid, hydrochloric acid, nitric acid or a mixture of such materials.

21. (original) A process as defined by Claim 18 wherein the coagulant is sodium hydroxide, potassium hydroxide, calcium hydroxide or a mixture of such materials.

22. (original) A process as defined by Claim 17 wherein the second portion of the waste water mixture is recycled by a low pressure pump.

23. (original) A process as defined by Claim 17 wherein the second portion of the waste water mixture is recycled by gravity flow.

24. (original) A process as defined by Claim 17 wherein the second portion of the waste water mixture is recycled by a low pressure pump.

25. (original) A process as defined by Claim 17 wherein the second portion of the waste water mixture is recycled by gravity flow.

26. (original) A process as defined by Claim 17 wherein molecules of the non-dissolved air attach to the coagulant, and an initial pin floc is formed in which the air molecules are entrapped within the pin floc.

27. (original) A process as defined by Claim 17 wherein the air is not pressurized to a point at which air can be dissolved.

28. (currently amended) A process as defined by Claim 17 wherein the waste water is recycled by a pump which operates at a [does not operate at the] pressure below the pressure required to dissolve the air.